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ABSTRACT

"The Electric Company" was created by the Children's Television Workshop (CTW) as an experiment in using television to teach reading skills to children in grades 2-4 who were having difficulty learning to read in school. With more than 500 shows completed and four seasons behind it, the series continues to be an experiment. The methods of presenting the curricula via television are still being tested, altered and refined to build on the show's experience and to attain optimum effect. There has been a gradual shifting in emphasis from a show to be viewed at home to one to be used in a classroom. The series was initially conceived as primarily an after-school program, but research during the first season of 1971-72 made it clear that the series had dramatically found its way into schools and was being incorporated into the classroom routine. (JY)

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Editorial Backgrounder

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Five years of 'The Electric Company'

Television and Reading 1971-76

To the Reader:

The jury is still out on whether American society (in which an estimated 25 million citizens are functionally illiterate) will marshal sufficient resources to achieve universal literacy. But this much we have learned from The Electric Company: the medium of television is definitely one of these resources. This continuing experiment has demonstrated over the past years that the immense power and appeal of television can be applied to teaching the reading of print.

We had an inkling of this before the show premiered in 1971, but even the most optimistic producers and researchers did not dare to expect that the series would reach its young target audience so quickly and extensively, especially in elementary classrooms. But teachers and independent researchers confirm that the program, in school and out, has helped faltering young pupils before they are effectively cut off from other disciplines that depend so much on one's ability to read the English language.

The TV producers and educational researchers who have labored in this application of entertainment techniques to the teaching of reading have faced a variety of challenges in many ways greater than those the Children's Television Workshop faced in the creation of its first experiment, "Sesame Street":

- few of the experts agree on how to teach reading in the classroom, even under ideal circumstances;
- it seemed almost antithetical to consider the use of the medium of television to teach the reading of print;
- the format had to attract the viewer by action and humor that would compel him to attend to the print on the screen.

One result is surely the most technically sophisticated series in the history of television.

The Electric Company will continue to pioneer in extending the medium as a supplemental tool to teach reading. The next two production seasons will see the creation of 260 of what may well be the most educationally effective shows ever produced to teach reading on TV. The program, which will be broadcast through the 1980-81 season, will represent the epitome of what has been learned by our production and research people about reaching a target audience with an educational message. We look forward to continued high impact of the series throughout the next six broadcast seasons.

In the larger context of children's television, most programming is still determined by the needs of the marketplace. The real needs of children themselves simply do not seem to count. Shows like The Electric Company, along with Sesame Street, Mister Rogers' Neighborhood, commercial television's excellent after-school and occasional evening specials and Captain Kangaroo, prove that the medium can be applied entertainingly and effectively to serve social, educational and entertainment purposes. These few programs remain beacons in the no-man's land of television—perhaps we should call it "no child's land."

TV can and does teach. Yet it is most often used solely to entertain and too often to entertain violently. Audiences are not monolithic; specialized programming by age and by goal is possible and desirable (The Electric Company aims directly at seven-to-ten year olds). A teenager isn't interested in the same things as a pre-schooler, yet in the TV industry "children's programming" covers everything up to the age of 18.

We know that children like variety, yet the lowest common denominator in most commercial fare churns out remarkable sameness in formats. We know that kids respond to real human qualities, yet most of what they get are "TV superheros" with little or no humanity.

We know all these things and more, yet with rare exceptions we continue down the same potentially destructive road. I believe that the necessary resources exist both in commercial and non-commercial television to serve the real needs of viewers, that what we require is the will to create a diversity of better programs for our most precious natural resource: our young people.

Joan Ganz Cooney

Joan Ganz Cooney
President
Children's Television Workshop
October, 1975

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THE PROGRAM

"The Electric Company" was created by the Children's Television Workshop (CTW) as an experiment in using television to teach reading skills to second, third and fourth grade children who were having difficulty learning to read in school. With more than 500 half-hour shows completed and four seasons behind it, the series continues to be an experiment as it proceeds through its fifth season on the 256 stations of the Public Broadcasting Service.

The methods of presenting the curricula via the medium of television are still being tested, altered and refined to build on the show's experience and to attain optimum effect.

There has also been a gradual shifting in emphasis from a show to be viewed at home to one to be used in a classroom. The series was initially conceived by the producers as primarily an after-school program although the program has from the beginning been broadcast twice a day in most parts of the nation, once during school hours and once in late afternoon. Early research during the first season of 1971-72 made it clear that the series had dramatically found its way into schools and was enthusiastically being incorporated by teachers into the classroom routine. Taking a cue from the vast in-school utilization of the program, the producers began to structure The Electric Company more in terms of the needs of the classroom. In keeping with CTW's approach to experimental television projects, the needs of the audience have played a continuing role in shaping the content of the series.

ORIGINS: CURRICULUM PLANNING

The Electric Company shares with its preschool counterpart program, "Sesame Street," the distinction of being the most thoroughly researched program in the history of educational television. The reading series was nearly two years in the making before its premiere on October 25, 1971.

CTW President Joan Ganz Cooney recalls that the project was undertaken in response to a request by the U.S. Office of Education which had designated the 1970s as the "Right to Read" decade with universal literacy a major goal. Government estimates showed that illiteracy was a problem for as many as one out of every ten Americans. Millions more are described as "functional illiterates" who cannot cope or compete in an advanced technological society.

Dr. Gerald S. Lesser, of the Harvard Graduate School of Education and Chairman of CTW's advisory board, explains that doing a reading show wasn't an isolated experience. "It was just a natural step from Sesame Street," he recalls. "As we went along with the three, four, and five-year-olds on Sesame Street it was quite obvious to us that they were getting some of the pre-reading language skills that we were setting out to teach them and more rapidly than we had any reason to believe they might. That included reading simple sight words. So we reasoned that if little kids can do it as quickly as they seem to, we ought to have a shot at doing it with older youngsters who need that kind of help as well."

The task of organizing such a project fell to Samuel Y. Gibbon, Jr.,

who at that time was a producer of Sesame Street. "I didn't know anything about reading or language," remembers Gibbon, "and it seemed to me that if I was going to do this show I had to know as much as I could about how language develops as well as how reading is learned."

Accordingly, Gibbon spent the first half of 1970 talking with language and reading experts around the country. By late spring he felt sufficiently immersed in his subject to call together a seminar of academic advisors to begin developing a curriculum. Altogether, more than 100 experts participated in the pre-production planning.

Meeting regularly through the spring and summer, the advisory group, under the chairmanship of Dr. Lesser discussed the various reading skills that should be incorporated in the series. By the fall of 1970 the committee agreed upon a curriculum. "The intention," explains Dr. Barbara Fowles, then assistant research director on the project, " was not to create a new method for teaching reading but to bring together the various established techniques--a sort of 'cafeteria' approach. The unusual, and hopefully successful, innovation would be the presentation of these techniques on television."

The program was aimed at children between the ages of seven and ten -- crucial years for learning reading. "If the student falters at this point," Lesser points out, "there is still time for a mid-course correction. After the third grade, reading becomes a tool to explore all other subjects rather than a subject in itself. If the child isn't reading up to his grade level after that the chances of frustration and failure are heightened dramatically." The bullseye of the target audience was set as the child in the lower half of the second grade in reading achievement.

CURRICULUM GOALS: The curriculum emphasis was, and still is, on decoding skills -- a suggestion originally made by Dr. Courtney B. Cazden at the Harvard University Graduate School of Education. The series stresses three basic strategies for spelling/sound analysis: "blending," "chunking," and "scanning for patterns."

Blending consists of sounding out phonically regular words letter-by-letter or constructing words from smaller parts (for example, substituting initial consonants to make a word family, as in "mop," "top" and "pop").

Chunking helps the child recognize groups of letters as single units corresponding to single sounds (such as "ow" "ight" "th" and vowel digraphs).

Scanning involves looking ahead for spelling patterns that may affect the pronunciation of a word such as the silent "e," which signals a long vowel sound (as in "bite") or a doubled consonant, which signals a short vowel sound (as in "bitter").

Implicit in the application of all these strategies was the attitude that reading is a problem-solving endeavor whose end goal always is to extract meaning from printed language. The reading task is not complete when the words are merely sounded out or when the sentence has been read word-by-word: there must be meaning as well.

The committee also decided that there could be no sequencing from one show to the next. Each half hour program would be a separate entity. "We had to assume," explains Sam Gibbon, "that a home viewing pattern wouldn't be constant so any kind of sequencing we undertook would necessarily exclude some parts of the audience. However, we did decide

that there would be sequencing within an individual show, allowing the child to start at the simplest point and to progress to a more complex point where he could read a phrase or short sentence comprised of some of the words that had been taught earlier in the program."

Curriculum goals have been reviewed by producers, researchers and the advisory committee at the end of each season, but except for a few minor changes in emphasis the original concentration on decoding skills has prevailed.

THE PRODUCTION VEHICLE

> "This production must be given top ratings by every standard of measurement. It is an awesome creation which imaginatively and entertainingly utilizes the medium to instruct with a brilliance and professional quality not commonly found. It represents a special level of excellence. The considerable financial resources have been used to the utmost. The result is a model which represents a goal toward which all producers of instructional materials might aspire, however unlikely it is that comparable funding will be made available."
>
> -- Ohio State Award Citation

The Electric Company has a ten-member repertory company with no central star or host. Unlike Sesame Street, action on the reading series takes place in a multitude of settings with no home base. "This was quite deliberate," points out Sam Gibbon. "We decided it had to be different enough from Sesame Street so that kids who were graduating from our first show would not dismiss the new program as kid stuff. We wanted it to be more hip, more sophisticated, but we wanted to use many of the same techniques and styles, especially the variety magazine format. Having flexible settings and characters however meant that characters in the show were not language or role bound. A black actor could play an articulate lawyer speaking standard English and then play a street character talking idiomatic English. The implicit message was that you could be multi-dialectical in English."

Another decision was to lean heavily on special effects to illustrate reading skills in ways that couldn't be done through traditional classroom presentation. For example, words could be pulsated, expanded, exploded and made to change colors. Most important, computer generated graphics could virtually separate a word into its important segments and then reassemble it. "We could graphically illustrate to the child how to decode a word," points out Gibbon, "and we could show the process uninterruptedly. That seemed very significant to us."

"We could use an electronic device called chroma-key to alter scale," continued Gibbon. "We could show a small figure surrounded by very large letters manipulated by a huge hand. We knew the teaching was appealing to kids but more than that we hoped that the device would let the audience know that we were aware

of their apprehension about print and that we sympathized with them."

The central focus of the program was a repertory company. Seven accomplished TV, film and theatrical performers signed on for the first season to play a wide variety of roles. They were Jim Boyd, Lee Chamberlin, Bill Cosby, Morgan Freeman, Judy Graubart, Skip Hinnant, and Rita Moreno. Luis Avalos, Hattie Winston and Danny Seagren (Spider-Man) joined in subsequent seasons. A young rock group called "The Short Circus" was also featured.

RESEARCH INPUT: The Electric Company employed what has come to be known as the "CTW Model" of research and development to insure a steady flow of information about audience response and learning impact to the production staff. The model includes an unusual built-in research capability through which experts work with producers and writers and help determine elements of the programs that combine appeal and educational effectiveness. Techniques range from simply cataloguing childrens' responses to television segments to sophisticated film studies of eye movement patterns to nationwide sampling to determine program impact.

In the case of The Electric Company, research has generally focused on two areas: the basic processes in learning to read and the development of more effective ways of motivating young viewers to read print on a TV screen. The work began long before the program went on the air. Prior to any decisions on format for the show, extensive testing was done by CTW's research staff headed by CTW's vice president in charge of research, Dr. Edward L. Palmer, and the Electric Company assistant director of research, Dr. Barbara Fowles. Target-age-children were shown a variety of established television fare in order to determine the kind of humor that caught and held their attention -- and their responses were carefully monitored. "We learned that these children really love parodies," says Dr. Palmer. "They are terribly fond of spoofs on things they already know about. We also discovered that when we ran a segment over three to five minutes we risked losing the attention of the children. Our findings substantiated the producers' desire to create comedic situations as vehicles through which print could be presented on screen. The unrelated short skits, standup gags and parodies were easily responded to by the children."

PILOT: In March of 1971, David Connell, CTW vice president in charge of production and executive producer of the new series, Sam Gibbon, the producer, and head writer Paul Dooley, a veteran actor of Chicago's Second City and a vaudeville fan, collaborated on writing the first script as a model for the new series. They created the format, the title, a group of characters that would best serve the curriculum, and some skits, songs and gags in which to present it.

On the basis of that first script, five scripts were developed and five pilot shows were produced and tested during the summer of 1971. The results were positive and production for the series began.

UNDERWRITING: Underwriting of $7 million for the preliminary research and development of the pilot and first season was received from the United States Office of Education, the Corporation for Public Broadcasting, the Carnegie Corporation and the Ford Foundation.

PROMOTION: An intensive nationwide effort was undertaken to inform young TV viewers, teachers, parents and the general public about the purposes and content of The Electric Company. For example, a paperback book outlining

the goals and techniques of the program was mailed to reading teachers throughout the U.S. and a half-hour special about The Electric Company aired on commercial television before the premiere on PBS. Newspapers, magazines and television gave considerable attention to the experiment during the production stages and at the time of the broadcast debut.

THE DEBUT

> "Perhaps no other innovation (The Electric Company) in the history of education has made its presence felt among so many people in so short a time...."
>
> -- Dr. Sidney P. Marland Jr.,
> U.S. Commissioner of Education

A handful of slower readers gathered in a corner of a one-room schoolhouse in Vermont to watch. A modern school in Tennessee videotaped the show off the air and fed it back to youngsters on sets upon demand on an average of three to four times daily. A South Dakota Indian reservation school reported tardiness dropped from 80 late arrivals a week to almost none when the show was aired on the school set at 9 a.m. A teacher wrote the producers: "Thank you for giving me a 'third hand.' Classes like mine really enjoy the shows and this gives me a 'break' in which to work with individual children. Keep up the good work!"

In such varied ways, then, The Electric Company entered the lives of children, teachers, school administrators and parents across the U.S. The debut was on the 200 stations (there are now 256) of the newly-created Public Broadcasting Service on October 25, 1971. Within a matter of weeks the program was being watched in one of every four elementary schools in the U.S. An estimated two million youngsters were watching in classrooms, and another estimated two million were watching at home.

"After Sesame Street," recalls executive producer Connell, "The Electric Company was probably the most heavily researched program in the history of television, and it was certainly the most painstakingly developed educational vehicle the medium has known." The result was now highly visible (most PBS stations ran the show twice a day; many repeated it on weekends), and the demanding production schedule and continuing feedback kept producers and researchers busy with the trial and error peculiar to CTW's experimental programming. The sophisticated animation techniques and extensive use of chroma-key, among other things, made the show more technically difficult than had been anticipated.

Andrew B. Ferguson Jr., the then studio producer who later became the series producer, recalls: "We were creating 130 half-hour shows and we were working long hours trying to figure out the mechanics. We were involved in an experimental vehicle that was constantly being researched and often challenged. For example the blending techniques we modeled that first year were a little rigid and archaic. We broke up blending too much. You don't read cat c-a-t. Reading is a more fluid

process. So we tried to find more fluid ways of blending."

WRITING CHALLENGE: The show's writers, who came from a variety of backgrounds in television comedy and advertising, had a complex and unique task: they had to be more than simply funny. As head writer Tom Whedon points out: "We were subject to the disciplines of the curriculum, which meant we had to apply our comedic talents to a set of narrowly defined teaching goals. In some ways it was easier: we knew the area we had to attack. But it was also harder. We had to make sure that what we created contained an entertainment quotient to appeal to the target audience and an educational message that would teach that audience." One measure of their success: the first Emmy won by The Electric Company went to the show's writers for "outstanding achievement in children's programming."

There was some uncertainty about how print should appear on the screen and how it should be related to the action. These questions have fascinated CTW's producers and researchers from the beginning, and they inspired sophisticated research on such subjects as the movement of the eye in response to television images. But that was down the line. In that first year, the decision was to put print at the bottom of the screen somewhat like the titles in foreign movies. When there was no action on the screen there was no problem. The print became the star and there were all sorts of electronic tricks to keep the viewer interested in the word that was being shown. "When you see a lot of quivery letters on the screen," comments Dr. Lesser, "you wonder what it will be when it gets to be something. The kid is doing the same anticipation that you're doing. Then when the word finally takes form you have the child's attention." By the time the third season came around, The Electric Company enjoyed dramatic breakthroughs in the treatment of print on screen (page 7).

Another device that was successful was the use of two silhouetted heads, one at the left of the screen and one at the right, facing each other. To the accompaniment of music the left silhouette would say the first part of a word as the corresponding print emerged from the actor's mouth and the right one would say the second part sending the printed second part of the word onto the screen. Then the two parts of the word came together in the center of the screen and the two silhouettes said the whole word together.

It was an exciting, hectic and magic first year. Gradually production began to pick up speed and the scripts became easier to do. "We finished up the year exhausted, relieved and quite pleased with ourselves," recalls Gibbon.

A FAST PACE: The first season struck some observers as too ambitious and too frenetic. Each half hour featured five or six teaching goals, a fairly high decibel level, an abundance of rock and roll music and a fast pace. Dr. Jeanne Chall, professor of education at Harvard University's Graduate School of Education and a member of the show's advisory committee comments: "There was too much noise, too much going on, too much rock and roll and too much confusion. I found it hard to take, but then I wasn't supposed to learn from it."

Children for whom the program was created, meantime, were learning. Nationwide studies conducted by the independent Educational Testing Service of Princeton, New Jersey, revealed that children who watched The Electric Company learned more reading skills than control children who didn't watch the show. Also significant, and a surprise

to anyone connected with the series was that six weeks after its premiere 45 per cent of all the elementary schools that had access to the broadcast signal and sufficient TV equipment to receive The Electric Company were using it. This was an early finding of a two year utilization study performed by two Florida State University professors in conjunction with the Research Triangle Institute. (See page 14 for additional details).

SEASON-TO-SEASON MODIFICATIONS

SECOND SEASON (1972-73): After a review of first season results, the producers introduced changes that included a more relaxed format. There was an effort "to teach more by teaching less." Among other things, that meant presenting fewer curriculum elements in each show, and grouping the curriculum in blocks. The show's structure was dictated by the development of useful teaching strategies -- what worked with the target audience -- instead of the strict sequencing of curriculum skills that governed season one. It helped pedagogically, too, permitting an analytic approach as well as the synthetic approach of the first year (for example, a word such as "cat" could be treated first as a group of letters, next as a syllable unit in a larger word, and finally as part of a phrase or sentence, or the order could be reversed).

The proper placing of print (letter combinations and words) on the screen during a scene remained a problem. The producers tried boxing the print to make it more eye-catching but continued to place it at the bottom of the screen. The use of the boxes prompted writer Sara Compton to suggest the producers were putting her words in "little coffins."

"For the second season," relates Dr. Vivian Horner, director of research for The Electric Company, "we cut down the number of teaching goals in each show from five or six to three or four. We also reduced the noise level and the frenetic quality of the program. Some teachers complained that the kids were getting so excited that they were difficult to handle after viewing the show."

There were also some changes in content. A segment called "Love of Chair," a parody on soap operas, was dropped. Other second season changes included replacing certain silhouettes employed in the first season, and expanding some characters that originally had been too tightly defined. A character named "J. Arthur Crank," a comic relief character who started as a voice on the phone, became visible during the second season. Another character, the word detective "Fargo North, Decoder," who worked out of an office decoding messages, began to leave his office and to make house calls.

An attempt at presenting the "why" of reading was added in the form of "A Very Short Book." This was in response to the suggestion of some advisors who maintained that the goals of reading sentences and signs were important, but that it would be useful to emphasize that reading also involves books. Stories presented in the format of the Very Short Book consisted of four or five pages, each containing a simple line of the story and a chroma-keyed picture showing live action related to the story. The effect is to see a moving illustration in the space on each page where normally a static picture would appear. The stories are trimmed down parodies of fairy tales or nursery rhymes that have been given comedic endings. The purpose is for the viewers to read the print a few seconds before an off-camera voice reads it to them.

YEAR THREE (1973-74) PROGRESS WITH PRINT: The third season saw a breakthrough in the handling of print on the screen. Eye-movement research conducted for CTW by Dr. Kenneth O'Bryan and Dr. Harry Silverman of the Ontario Institute for Studies in Education, revealed that the least desirable place for print is at the bottom of the screen. The research involves the use of a technique of reflecting a beam of light from the cornea of the eye of the viewer so as to determine not only whether the child is looking at the screen, but also just where on the screen the viewer's gaze is directed. Dr. Palmer's judgment: "We dramatically improved our ability to display print so that it actually will be read by poor readers." Producer Ferguson adds: "We also realized that instead of having the print 'accompany' the action, it would be better to make it a part of the action -- to use print as though it were another actor. We began to have the actors refer to the print and even point to it.

"For example, in a scene teaching the word 'untied', a character might say, 'Now my shoes are ...' and he'd look up and see the word 'untied' flashing on the screen. Then he'd finish the sentence and say the word 'untied.' We found that it was better to have the viewer see the word before it was said aloud. That gave the child a chance to read it first. We also experimented with different types of print and arrived at the decision that the words should be printed as they would look on the page of a book so as not to confuse the children."

The eye-movement research also prompted a return to the silhouetted heads. Says Palmer: "We found that when a face with clearly defined features appears on the screen with the print the children's eyes invariably focus on the faces. With the silhouettes the kids look at the print."

Two popular characters were created: "Letterman," an animated superhero who flies through the air to resolve difficult dilemmas that the "Evil Magician" has malevolently created by altering words and "Un Fu," a character who poked fun at the martial arts craze.

Dr. Fowles points out that there was also a return to sequencing in the third season. "Only this time," she explains, "we used sequencing kids could see. For example we could start teaching the letter "a," then show a particular consonant. Then we'd progress to a word that had both of those in it. Then we might offer a "ch," then a word that had both a "ca" and "ch" in it. Then we would put it in a phrase with punctuation so it all hung together."

FOURTH SEASON (1974-75) ENTER SPIDER-MAN AS TEACHER: The fourth season was marked by the introduction of the comic book superhero Spider-Man as an important character on the show. Since he didn't talk on the program the kids had to read what he was saying or thinking in the balloons over his head, much the way they would read his thoughts in a comic book. "The eye-movement tests showed that the balloon device was a most successful way for getting the kids to read," comments Ferguson. Spider-Man began to move in realistic sets within the frame of a chroma-keyed comic strip panel. The result is a blend at media: a moving character acting inside print and illustrative material.

COMING: AN 'ELECTRIC COMPANY' FOR ALL SEASONS

> "Children who can scarcely talk are on a first name basis with the characters in such established TV favorites as Sesame Street and The Electric Company....These programs are two of the best things the Office of Education ever invested in."
>
> -- Terrel H. Bell, U.S. Commissioner of Education

The producers are putting together the final two years (260 shows) of The Electric Company. The programs are being created for continuing use through 1981 as a television supplement to the teaching of reading -- material from past seasons with proven educational value and appeal will be incorporated into the two years of new programs. "We hope the programs will be a kind of classic," explains Dr. Horner, "which can be used in reruns over several years. The program will be geared more than ever to an in-school audience."

The plan calls for creation of two full seasons of 130 programs each between 1975 and 1977, and then alternating reruns of these episodes for the succeeding four years as new generations of second-,third-and fourth-graders move through their early reading curricula. Research and outreach will continue through the next six years and the results will determine whether new production is required. Decisions are now being made concerning the best ways of presenting the curriculum for the audiences of these programs. "For example," says producer Ferguson, "we want to cluster our teaching units more and we're looking for devices to set up a segment or to comment on a sequence after it has been shown. That's hard to do without being too pedantic."

One important decision is that children will be used more extensively than before on the show itself. For the first four seasons the youngsters were essentially performers -- rock-and-roll singers, dancers and musicians. With four of its five members new this year, the youngsters, still called "The Short Circus," will be used to illustrate some of the messages of the series. "We'll use the kids in sketches more," says Ferguson. "We'll see them reading books and writing. We'll involve them more in games and songs that the viewing audience can participate in. It will help reassure teachers and children that it's okay to respond to the program while it's going on. Our main concern for these last two years of production is to get close to the teachers, to try to meet their needs. What you're going to see is still The Electric Company with all its magic, but perhaps more directly relevant to the classroom."

THE CREATIVE CHALLENGE

Creatively The Electric Company has always presented the unique challenge of offering specific teaching skills in an entertaining fashion. That the writers and actors have achieved this end to a remarkable extent

is a testimony to their intelligence and talent.

Tom Whedon, who had spent the three years previous writing for the Dick Cavett show, was asked in to help out with some early scripts. "I was intrigued by the test shows," he recalls. "I planned to be here six weeks, and I'm still around."

Indeed, in a rarity for the mobile TV industry, all of the six writers who were with the show at the end of the first year are still confronting their typewriters on behalf of The Electric Company.

Whedon's one reservation was that the show was "too serious" at the beginning. "It needed somebody who could walk through a wall occasionally -- somebody who can produce wild behavior without scaring kids."

His conclusion: The Electric Company needed a gorilla. Everybody thought he was kidding, but he pressed the point and prevailed. Paul the Gorilla, one of the popular characters of the show, was named after Paul Dooley, the head writer in the first season.

In the early days of the series, since there was no backlog of available material writers were turning out full half-hour shows. "It was difficult and exciting," recalls writer Tom Dunsmuir. "We had to incorporate very specific goals into each of our skits which was no easy task. On the other hand we were given incredible creative freedom. It was a heady experience."

The actors were also caught up in the same early exhilaration. Academy and Tony Award winner Rita Moreno confides that nowhere else would she be given the opportunity to play such a variety of parts. "I love vaudeville," she says, "and here was a chance to try out a whole series of zany characterizations. On the other hand I knew we were offering something more than just entertainment. We were helping children who couldn't read. In fact, the help came right into my own home. My daughter, who was the age of our target audience and was having great difficulty with reading in school, learned to read from watching The Electric Company. Can you imagine how exciting that was, to have my child learn to read from the show I was appearing in?"

According to Dunsmuir, who has written 90 shows, there is no formula for creating the various characters for the series. Some, such as "Easy Reader," "Fargo North, Decoder" and "Julia Grownup" were created in the first script, while others, like "The Blue Beetle," "Letterman" and "Silent Sam," came about from the day-to-day writing of the show. "Sometimes," reveals Dunsmuir, "you don't know you have a good character until another writer shows interest in it and says 'let me try writing something using that person.' One writer thought of doing The Blue Beetle and we all began writing for it." Conversely, Ferguson relates that the Un Fu character has not been used much because not all the writers find him easy to write for.

All the characters for the show must have a teaching function. Thus the hip-talking Easy Reader, who is obsessed with the written word, is there to inspire the desire to read in the children. "Fargo North, Decoder" helps them use context clues. "Silent Sam" was designed to elicit overt responsiveness in the viewers. Since he didn't talk, it was hoped he would encourage the children to do it for him by reading his part.

Some characterizations, although hilarious to adults, just didn't

make it with the kids. Such was the case with Judy Graubart's marvelous parody of chef Julia Child. Her character, "Julia Grownup," was shelved in the third season.

The actors agree that there is a dilemma in performing in a show such as The Electric Company. The question always is what's going to win out: the entertainment or the lesson? The actors tend to opt in favor of entertainment although there is a commitment to getting the educational message across.

"I'm always aware," comments Rita Moreno, "that certain actions will distract from the lesson and I often censor myself. I'll think of a funny piece of business and then I won't even mention it to the director or the other players because I know it won't serve the purpose of the skit."

Moreno, who would like a return to the first season's eccentricity and outrageousness, says one thing she objects to wildly is having to point to the words in the middle of a skit. "There are times when you can do it and it's all right," she explains, "but there are other times when having to do it breaks your concentration and destroys the whole moment."

The actors have become aware through the years of working on The Electric Company of how contradictory the English language can be and how frustrating it must be for children to learn it. They have also become admiring of the difficult task before the writers in having to present the lesson in an entertaining yet instructive fashion.

"There was one skit that I did as 'Pandora, the brat,' remembers Rita Moreno, "that was marvelous. It was a skit to teach punctuation. The little girl is very tiny on the screen and behind her are these huge letters that spell WOW. There's a period after the WOW. The little girl does a very bad tap dance and you hear voices say a very lethargic, 'wow.' She gets quite miffed so she does the dance again and gets fancier. She finishes and bows and points to the camera and again the voices say a droopy, 'wow.' She turns around and looks at the word and sees what the problem is. She goes to the word and kicks off the period. Then she brings in an exclamation mark and puts it after the word. She dances again and this time she hears a rousing 'WOW!' What a graphic way to teach something! It's pure genius."

Celebrities have performed on The Electric Company without having any special billing. During the second year such TV luminaries as Flip Wilson, Lily Tomlin, Carol Burnett and Lorne Greene appeared without compensation delivering one-liners. "It didn't test out well," recalls Ferguson. "The kids didn't seem to respond to the celebrities as I thought they would. We discontinued them after the second season."

Other celebrities such as Mel Brooks, Bob and Ray, Tom Lehrer, Joan Rivers, Zero Mostel, and Gene Wilder perform voice-overs for the various animated characters.

MUSICAL INPUT: Music has always been an important vehicle for presenting curriculum items on both of CTW's children's programs. In the early stages of Sesame Street, Joe Raposo, then CTW's music director, convinced producers that originally-created music was faster and better suited to the program than adapting existing music. That philosophy, as it turned out, was even more applicable to The Electric Company because of its more specific curriculum goals and because of its limited time (30 minutes a day) in which to present those goals.

Consequently, unlike Sesame Street where lyrics and music are created in the music department, lyrics for Electric Company music originate with the show's script writers who in turn get curriculum guidance from the series' research staff. It has been up to the series' music directors, originally Raposo, then Gary Friedman, and now Dave Connor to adjust those lyrics for scanning, and then set them to music. Tom Lehrer and Clark Gesner have also contributed songs occasionally.

This, combined with the fact that The Electric Company's older audience is more music style conscious, gives the series a somewhat less lyrical music style that is characterized by Connor as "a mixed bag leaning heavily to rock."

RESEARCH: BASIC TO THE EXPERIMENT

> "In 15 years of examining these matters, I have seen nothing in American education of comparable importance."
>
> -- Martin Mayer, The New York Times Magazine

As with all Children's Television Workshop projects research plays a major part throughout development of a program. This has been especially true of The Electric Company which is attempting to do what no other television show has ever undertaken -- teach reading skills to children who are having difficulty learning them in school. Lacking precedent, the producers of the series have had to rely on their own continuing research.

FORMATIVE STUDIES: Two years before The Electric Company went into production CTW's research director, Dr. Palmer, and The Electric Company's then assistant research director, Dr. Fowles, began a series of formative testing to provide feedback to producers. "This research," elaborates Palmer, "consists of testing experimental TV materials to help the producers improve the appeal and effectiveness of the series."

"We experimented with existing television fare. One method of testing was to use a distractor. We have a child in a room looking at a monitor. Off at a forty-five degree angle from the television set we have a slide show going. There's a new slide every seven and a half seconds. What we are doing is trying to distract the child from the television set. We keep a record of the times when the child, or children, can be distracted from the television set and when they cannot."

"Not only did we learn about the kinds of material to use but we arrived at other significant data. We found that The Electric Company viewers (elementary age) are much more abruptly selective about what they view than the Sesame Street age children (preschoolers). When you look at the distractor graphs for the Sesame Street age children you have long slow curves. By contrast, viewers of The Electric Company target age show sharp fluctuations. You can grab their attention quickly, then very abruptly they'll turn away to something else. We decided these kids have a very sophisticated built in monitor which is alert to the television set even if they're off giving their attention to something else. They are very quick to hear something that bodes for interest and excitement. Moreover, any time there's a change it

gets their attention. All this speaks for frequent scene changes."

Once a few Electric Company segments had been put together, there was continued research to find out the best ways of blending the entertainment content and the educational content in a coherent, non-competing fashion.

"We found that if a character was in motion," relates Dr. Palmer, "a hula dancer for instance, and was saying words, it was unlikely the child would pay attention to the words unless you stopped the motion. We learned a lot about repetition -- how many times you can repeat a particular segment without the child's attention dropping off. It turns out that within a short space of time you can't repeat too much. But if you repeat until the child becomes familiar with the character and the segment, then leave it out for awhile, and later put it back, its appeal goes back up quite strikingly."

During the second season the eye movement experiments were undertaken. "We used an apparatus that reflects a beam of light off the cornea of the eye and into the camera," explains Dr. Palmer. "You can look through a camera and find where the child's eye is focused on the screen. We were able to tell within the space of a dime where the children's eyes were focused. That testing helped us to determine how much print to put on the screen, how many different words and letters, what size, where to place them on the screen, and how long to leave them on the screen. All this in order to maximize the chance that the children will read it."

"There has been extensive testing for comprehension," he continues. "We'll go out with some material and a tape machine, and we'll run a segment up to a certain point, then we'll freeze the image. We'll ask the children questions about what's on the screen. Anything to indicate whether or not the child is comprehending what he is seeing. This type of research is still going on."

IMPACT STUDIES: As The Electric Company prepared for its debut in 1971 an extensive program of summative, or impact, research was undertaken to see how well the series was achieving its objectives. Tests were carried out by the Workshop on a local level, and the Educational Testing Service of Princeton, New Jersey was commissioned to carry out an independent nationwide testing of the show's effects. One of their methods was to compare classes that watched The Electric Company with those that didn't.

"The children were tested before the show went on the air and they were tested after," says Dr. Palmer. "Some classrooms were selected at random to view the series, and others as non-viewing controls. The results were very good. They showed that gains were substantial for those who watched the program. The tests were carried on through the second year so that some of the children were viewing for two consecutive years. Others viewed only one year and others not at all. The greatest gains occured in a single year, in that those who viewed for two years didn't seem to gain much more than those who viewed for one." (More details on page 15 .)

Dr. Jeanne Chall, one of the original advisors, has been given the go ahead from the Workshop to conduct research at Harvard. There is evidence that the lowest decile of Electric Company viewers in the target age group is not benefitting greatly from watching the series. Dr. Chall's studies will try to find out why.

PRESCHOOLERS TUNE IN: In addition to the target-age audience of seven-to-ten-year-olds, it became apparent that another group of children

had become Electric Company fans.

Having younger children as viewers added another possibility to the series' impact -- that preschool children could begin to learn to read from the program. Writer Tom Dunsmuir reports that his preschool child did indeed seem to be helped to learn to read from watching The Electric Company but suggests that it might just be a case of a bright child who would have learned to read quickly wherever she was.

At present the Workshop has a study going on in Illinois to look at the effects of viewing The Electric Company on three-four- and five-year-old children. This study will provide the first indication of what if anything these children are learning from the program.

UNPRECEDENTED CLASSROOM USE

"The Electric Company has recorded a remarkable advancement over previous trends in school innovativeness. If only in terms of the speed and scope of penetration of elementary schools of all kinds, The Electric Company must be considered a highly successful venture."

-- Drs. Robert E. Herriott and Roland J. Liebert of Florida State University, who conducted nationwide studies of in-school utilization of the series.

Although the producers of The Electric Company had hoped that some in-school utilization of the series would occur, they did not anticipate for the immediate and vast school viewing that took place.

Dr. Robert E. Herriott and Dr. Roland J. Liebert who were both then at Florida State University conducted nationwide surveys (in conjunction with the Research Triangle Institute) to assess degree of penetration and the acceptance of the series in the classroom.

The results were startling. Within two months of the series premiere, the show was being used by an estimated 18,811 schools -- almost a fourth of the nation's public and private schools containing grades two, three and four. In schools having full TV viewing capabilities (access to the broadcast signal and workable TV sets in sufficient quality and quantity), the penetration was even more pronounced: 45 per cent. And urban schools, especially, made use of the program -- 70 per cent of the large city schools which had full TV capability tuned into the program. Altogether an estimated two million pupils were viewing The Electric Company at school.

The rapid adoption of the program in the classroom inspired this judgement from Dr. Sidney P. Marland, Jr., then U.S. Commissioner of Education: "The extent to which American elementary schools put this new teaching aid to classroom use is truly one of the remarkable events in the history of instructional television."

The trend accelerated during the show's second season, according to a subsequent Herriott-Liebert nationwide study. They found that The Electric Company was used in one out of every three elementary schools in the U.S. (35 per cent compared with the 23 per cent who adopted during the same period in the premiere season). Again, the percentage was even higher when one considers that many schools do not have TV sets or access to the broadcast: 58 per cent of schools with full TV capability tuned in the second year (vs. 45 per cent the first year). The new study put estimated in-school viewership at 3.5 million (another estimated 3 million youngsters watched at home).

Some schools could not receive the broadcast signal, but most nonusers simply did not have TV sets or had them in insufficient quantity or quality. "The cumulative effect of technical deficiencies is overwhelming," the report found. "An estimated 48.7 per cent of the schools in the U.S. were unable to adopt The Electric Company because of these factors."

Today, there is hardly a child in the United States that hasn't viewed The Electric Company. "It has reached the saturation point," comments Dr. Vivian Horner. "We commissioned the Nielsen Company to find an area where children were not likely to have seen the series. We found very few. Here and there in very rural areas, but for the most part the program has become part of the culture of childhood."

The extensive in-school utilization enabled the researchers for The Electric Company in obtaining feedback from teachers throughout the country. "We found out from teachers what they thought was good and how the children responded to it," says Dr. Horner. "We were told what specific kinds of things happened in the classroom, what they attributed to the program, how they used the show in conjunction with their particular reading approach. Teachers helped us put together an Electric Company Guide, a publication that let the teacher know in advance what curricula were to be presented on what days and also included some follow-up exercises they might do." The biweekly guide has since been expanded into two volumes of classroom activity suggestions available before the broadcast season goes on the air.

Those involved in production feel certain that the series' success in the classroom happened in part because the show was not created for the classroom. "If we had set out to produce a program to be used at school I'm sure we would have been too pedagogical and we might have bored the children to death," speculates Ferguson. "Because we set out to be entertaining first of all we were able to capture the attention of the children and ultimately to teach them in a wholly unique way."

IMPACT ON CLASSROOM LEARNING

The initial and long range impact of The Electric Company on its target audience was documented by tests conducted in the series' first and second seasons by the Educational Testing Service. The first year study took place in 100 elementary school classrooms in each of two cities, Fresno, California and Youngstown, Ohio. The second study was also conducted in those two cities, but in fewer classrooms. The sample was randomly divided into viewing and non-viewing classes with controlled view-

ing conditions maintained for each group.

The first year study showed clearly that The Electric Company had contributed to significant gains in reading skills for viewers in comparison to non-viewers. This held especially true for the series' core target audience of second graders in the bottom half of their class in reading achievement and was observable for almost all of the 19 major curriculum areas taught on the show and tested by ETS.

Among the other findings by the first season study was the fact that the series had a measurable impact on pupils on the first grade level, a level not within the series' target audience and for which the program was not originally designed. Although somewhat less than for first and second grade levels, gains were also noted for students in the third and fourth grades.

The study noted too that the gains registered were for all groups including Hispanic, black, white, male and female and that teachers generally found The Electric Company useful in teaching certain reading skills.

The results of the first year study caused ETS to conclude in its

ONE SCHOOL'S CASE HISTORY

The following in-depth experience of one school is an illustration of the kind of progress that can be made through supervised Electric Company viewing.

The Electric Company easily rivals recess in popularity at the all-black Lincoln Heights (Ohio) Elementary School near Cincinnati. But more important, the television series reversed a downward curve in reading achievement among second and third grade pupils. They watch the program on an experimental closed circuit videotape system that teachers can use at the time of their choosing.

The system was installed in 1972 and a year later, school officials report second and third graders attained reading achievement scores that surpassed those of their non-viewing peers of earlier school years. In 1974 new tests of the same pupils found that the effectiveness of the videotape system and The Electric Company was an enduring one. In fact, in some instances learning and retention were even stronger than expected, particularly for the 1972-73 second graders.

These results were in sharp contrast with those in 1970 when 75 per cent of the pupils in the Lincoln Heights school district scored well below national reading achievement levels. Some were as much as two years behind peers in other school districts.

While other efforts to improve reading instruction at Lincoln Heights produced some gains, says school principal Ernest Ector, conclusive improvements began after the videotape system was installed in the school at the suggestion of WCET-TV, Cincinnati's public television station.

After viewing The Electric Company on the system during the 1972-73 school year, second graders tested that spring averaged five months ahead of their non-viewing counterparts of the previous year in vocabulary skills and six months ahead in reading comprehension. Third grade scores were nearly as

report that "Television can be an effective tool in helping first through fourth graders learn to read."

But what about the long-range impact of the program? Would those early gains stay with the pupils?

That question was answered at the end of the series' second season when the ETS study found that the gains from the first season not only survived the summer recess, (when the reading skills level of poor readers traditionally decline and those of good readers remain stable or increase) but were still apparent at the end of the second viewing year.

The second year study also examined the question of whether the program helped increase reading skills among core target audience youngsters sufficiently to raise them out of that group.

The answer, according to the study, was 'yes.' In both Fresno and Youngstown the study revealed a noticable decrease in the number of youngsters within each viewing class still classified as "target" because of their scoring below national norms in reading achievement.

impressive -- five months and three months ahead, respectively. Second grade is considered The Electric Company's primary audience and the level experts consider crucial in heading off early reading problems.

The six-channel videotape system, with one channel devoted entirely to The Electric Company, was fed into 23-inch color monitors in each classroom. There are six headsets in each room for special instruction. A central operator can tape a new Electric Company program daily and repeat it throughout the school day.

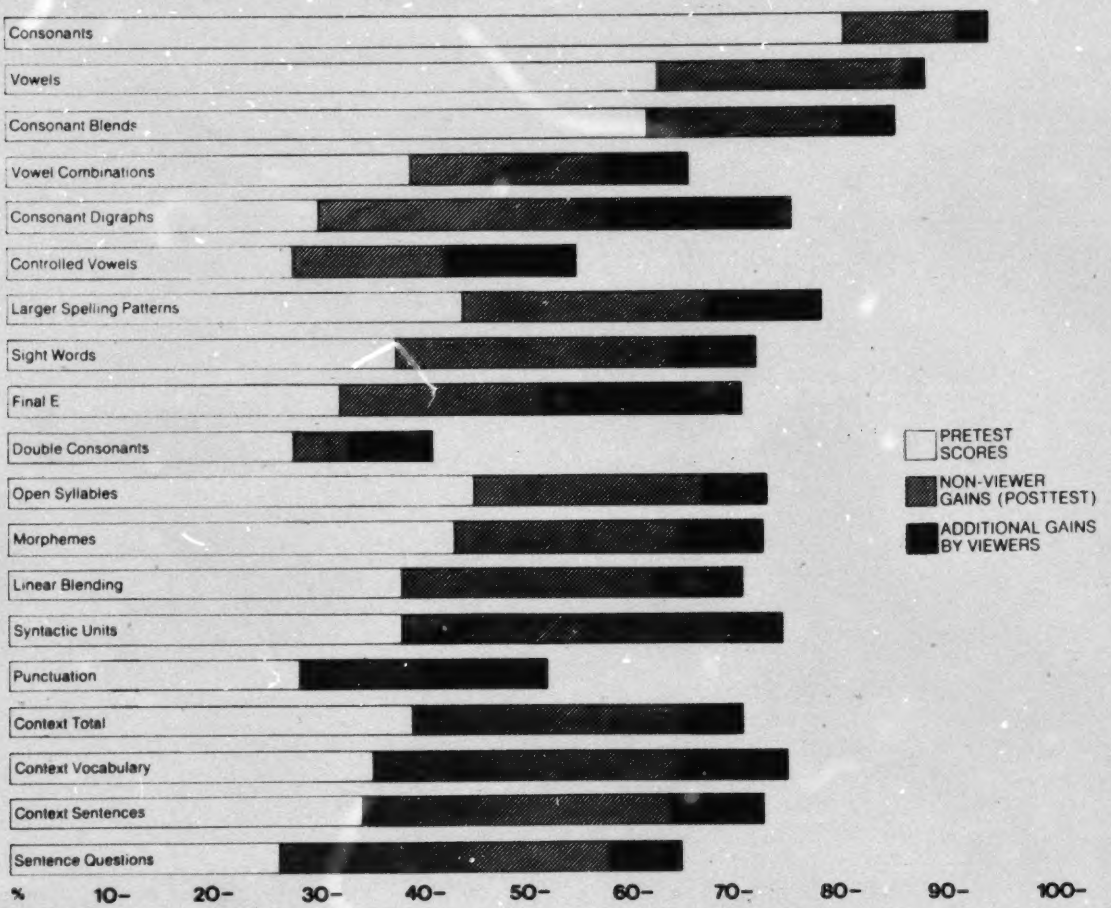
Teacher reactions were positive. Mrs. Janet Watkins a third grade teacher commented, "The kids can be saying, 'We don't get it' to something in the textbook or on the blackboard, yet understand it immediately when it is demonstrated on The Electric Company. They definitely relate better to TV and recall what they see weeks and months later."

That observation was echoed by a second grade teacher at Lincoln Heights, Tom Hinkle, who said, "The Electric Company stays with the kids. Weeks later they remember segments with materials I'm trying to teach. They see it at school and go home and watch it again. This type of thing is great reinforcement."

The school librarian, Mrs. Anzola MacMullen, added, "I've seen the effect The Electric Company has had on our students. It's most obvious in the way the kids are using the library. Circulation is up and there is much greater interest in using its facilities."

"The most important finding to come out of Lincoln Heights is that kids who a few years ago were making virtually no progress in reading are now moving ahead at national levels of achievement," comments Dr. Horner. "This experience demonstrates that television can have a decisive impact as a teaching tool when the school delivery system is flexible enough to permit teachers to gear educational TV programs to their curricula."

EXAMPLE OF VIEWER GAINS: The chart below shows percentage gains registered in various skills taught by The Electric Company by one group of target viewers. The chart reflects findings by the Educational Testing Service among second grade viewers in Fresno, California. ETS reported that these target viewers scored significantly higher than non-viewers in the other two areas in the evaluation of the television series. Chart illustrates additional percentage gain made by the target viewers in the subtests, which correspond to the 19 curriculum goals of the first season. Across the range of subtests, viewers gained from 2.5 per cent to 19 per cent more than non-viewers on the questions passed after pretest, and the average advantage among viewers was 8.7 per cent. The chart shows percentage of each subtest answered correctly at pretest, the percentage of gains made by non-viewers during the study, and the additional gains made by viewers. "Target" students are those who at pretest scored in the lower half of a nationally normed reading test. The Fresno viewers were among 8,363 grade school pupils who were tested by ETS before the series began and again at the end of the 130 daily, half-hour programs that made up the first broadcast season.



OUTREACH: BEYOND THE TV

The Electric Company has had the benefit of an intensified effort to reach more seven-to-ten year olds and their teachers to encourage them both to watch the program and build on its educational messages. The Children's Television Workshop has also produced a number of printed items and materials in other media to supplement the TV curriculum.

During the life of the program the Workshop's outreach arm, the Community Education Services division, has put the talents of its unusual nationwide field staff to work on behalf of grass roots "reach and teach" efforts in as many as 31 states and especially in areas served by hard-to-tune UHF channels.

In this extension work on behalf of The Electric Company, CES has sought to develop cooperative educational ventures with government agencies, colleges, school districts and local regional organizations which use the program as a supplemental teaching tool. CES, which is responsible for extending the viewing of the TV program has also worked closely with public broadcasting stations across the country (many of which have instructional TV experts on staff) to reach even more youngsters, their teachers and parents as well as others involved in educational projects for children.

"One of the areas where we have concentrated our efforts," says Evelyn P. Davis, CTW's vice president for Community Education Services, "is in those communities where UHF (ultra high frequency) channels broadcast the show. These broadcast channels are often hard to find on the dial. We want to insure that the word about the program's availability and its potential reaches those areas."

In addition, CTW has enhanced the educational impact of the series among its target audience by such methods as:

-- Working with local school districts and colleges in establishing reading clubs in elementary schools to reach students experiencing reading difficulties. These clubs employ The Electric Company in their curricula and use teachers and college students to tutor their members. (One project is underway in the Los Angeles Unified School District with University of Southern California students as tutors.)

-- Organizing media workshops for teachers to demonstrate the impact television and other media have on classroom instruction.

-- Working closely with statewide educational agencies and parent-teacher organizations to distribute material about The Electric Company.

-- In cities and towns with large Spanish-speaking communities, Workshop staffers encourage teachers to use the TV series in "English as a second language" classes. Such efforts are underway in Los Angeles, New York, Chicago and elsewhere.

CTW has regularly provided information on the goals and the use of The Electric Company to the instructional television director at all the PBS stations broadcasting the shows, and their enthusiasm for and interest

in the shows has greatly extended its adoption in the schools. CTW staff members regularly participate in teachers' workshops at the request of station personnel and broadcast organizations, and they provide some special utilization material (games, films, etc.) where that is feasible.

FROM TUBE TO PRINT: NEW TOOLS FOR READING

> "Sesame Street and The Electric Company, created as programs to help build learning skills of young children, have proved spectacularly appealing to their audiences and effective in meeting their objectives."
>
> -- The Fourth Revolution: Instructional Technology in Higher Education (Carnegie Commission on Higher Education)

The Electric Company has demonstrated that the techniques of television can enhance the attractiveness of print for youngsters who are not yet readers. But its creators didn't stop there. CTW's pioneering research and production efforts have spawned a number of off-screen multi-media products to help children transfer reading skills from television to print matter.

A major thrust in this area has been the creation of a line of multi-media supplementary kits which contain audio film strips, audio cassettes, four-color printed material (including comic strips, mini-books and consumable activity books) and games, all for classroom instruction in reading. The kits are based on Sesame Street and Electric Company characters and themes and are produced in conjunction with the Addison-Wesley Publishing Co. The first kits entered the nation's schools in 1975.

One of the two Sesame/Electric kits, is aimed at primary grades (the subject is sentence comprehension) and the other, on pre-reading, is for kindergarten and first grade classes. The kits are essentially support materials designed to reinforce and give practice in specific skill areas that often give primary grade children the most trouble. The Sesame/Electric materials have been designed for use in any classroom regardless of whether or not the TV programs themselves are being used.

The Workshop also publishes The Electric Company Magazine ten times a year and distributes it through subscription and newsstands to 250,000 readers.

The Electric Company Guide/Activity Book, actually two volumes, each containing more than 200 pages, is oriented toward teachers and contains curriculum goals for each Electric Company program as well as hundreds of puzzles, simple crossword games, songs and suggestions for teachers.

The natural appeal of comic books is being utilized by the Workshop to help youngsters transfer reading interest from TV to print matter they see in their daily lives. To achieve this transition, the Workshop, in conjunction with Marvel Comics, has created the comic book, Spidey Super Stories, which is distributed monthly on the nation's newsstands. Again, CTW's research team assisted the publishers in creating an educational as well as entertaining product.

COST EFFECTIVENESS

About $5.5 million is budgeted to cover costs of The Electric Company during 1975-76. This figure includes pre-broadcast and continuing research, production of 130 half-hour programs and post-broadcast, outreach and evaluation.

The cost of the program is substantial, but not when you consider the audience's size, which is also larger than many once believed could be delivered by public television. Each of the 130 half-hour episodes produced each year cost less than a penny per viewer and the cost per show remains well below comparable commercial network prices for children's programming. (An average Electric Company program costs about $32,000 to produce, while Saturday morning commercial half-hours for children cost in the range of $70,000.)

Terrel H. Bell, U.S. Commissioner of Education, has written that "Children who can scarcely talk are on a first name basis with the characters in such established TV favorites as Sesame Street and The Electric Company... These programs are two of the best things the Office of Education ever invested in."

The Electric Company is now underwritten by the U.S. Office of Education, member stations of the Public Broadcasting Service with the Corporation for Public Broadcasting; Ford Foundation and the Carnegie Corporation.

REACTIONS: PRO AND CON

Shortly after its debut, reaction from teachers and other educators began pouring in from all over the nation. If there had been any doubt of the program's effectiveness, the testimony of the vast number of educators dispelled them.

In Northfield, Mass. at the small Linden Hill School for boys having "a massive block in reading skills," the co-director, Mrs. Penny Hayes, reported, "The show's direct appeal to the basic teen-age longings -- motion, excitement, color and witty dialogue makes the learning process fun."

In Howes, S.D., where The Electric Company went on the air at 9 a.m., the Cheyenne River Indian Reservation's Bridger Day School reported tardiness had dropped from an average 80 late arrivals a week to almost none.

In Alexandria, Va., Dorothy Kellman Samenow, a remedial reading teacher, exulted, "What a pleasure it is to watch children learn the difference between 'kit' and 'kite' from a snappy little jingle sung by a rock band of 12-year-olds rather than having to drill phonics rules for months! Can you imagine the thrill for a teacher of seeing a child read 'The boy is sitting' if he has never read whole sentences in his life?"

High praise for the series comes from Dr. Shirley Feldmann of the School of Education at City College of New York. "I work mostly with inner-city kids, and although they may be different from other kids in the country I suspect they're not that different. They're very razzmatazz oriented. Television is their medium. They've been brought up on it. I think the kids like the comedy and the skits and the music and so on. I think particularly

the music has been used in so many creative ways. For example, what I've observed in the kids at the reading center at CCNY is that there's a lot of confusion in the conventions of reading. They mix up the various punctuation marks. They just haven't had enough practice dealing with them. A song like the punctuation song is likely to set that for many of them very strongly.

"One thing that one must say is that this show has opened up a whole new area of research in reading. The eye-movement work is unique. The research has been applicable to the magazines too. It has changed the visual arrangements on the paper. Having come from the world of primers, which for the most part ignore all this, it's very exciting."

The most persistent complaint about the series concerns its use of regional, ethnic and non-standard dialects. Many teachers complain that it's confusing to children who are in the process of learning correct English. After considerable discussion and debate, the Workshop opted in favor of a variety of dialects. "Our reasoning," explains the show's research director, Dr. Vivian Horner,

TEACHERS' ASSESSMENTS

The Herriott-Liebert studies conducted during 1971-73 found warm responses to the program from many teachers. Among the major findings of their nationwide sampling in the second season:

-- The teachers gave the series high marks for its effect on the reading skills of their pupils; 87 per cent of teachers reported "very favorable" over-all opinions of The Electric Company.

-- The teachers also gave the series high marks for its effect on the reading skills of their pupils; more than 85 per cent of the teachers reported some gains in specific reading skills which were directly attributable to the program.

-- Specifically, 36 per cent of teachers noted a "great improvement" in the ability of their typical pupils to decode words as a result of watching the series; 25 per cent noted "great improvement" in the ability of students to spell words; 38 per cent found "great improvement" in basic sight vocabulary.

Here are some of the sample comments teachers wrote about The Electric Company on a questionnaire used by Herriott and Liebert:

-- "The Electric Company is very interesting, enjoyable and beneficial, not only to the students but also to the instructor."

-- "It is useful to all my pupils. It is a review of sounds for my brighter pupils and makes concepts easier for my slower ones after viewing the program.

-- "Very good general application to phonics. Drill is especially good, language skills are very good."

-- "Please accept our appreciation for your wonderful efforts and the delightful performances of your entire cast. While evaluating the effect of your program as being most systematically planned but a bit frantic in its effort to hold interest, we think you are

"was that if you're trying to reach a diverse audience as we are trying to do, and you're trying to make the point that this reading thing is a manageable task, then you must take the position that no matter what it sounds like when you read it out loud, the purpose is the same and the relationship between your speech and what's in print is constant. The rule we made was that when dialects were used, they had to be appropriate to the situation. Language occurs in a great number of varieties. What's important is that fact be acknowledged without distorting the written form which is in fact constant. All performers who speak in a particular dialect in one segment also speak standard English in others. So you might have a hip black character in an appropriate setting saying, 'My daddy he go to work,' and the same actor is Prince Charming in the next, speaking archaic English. Orthography is always standard."

The producers have received thousands of letters from youngsters. Some are ecstatic ("I'm a real big fan of yours and I watch you every day that you're on TV," wrote Lisa Dusenbery of Liberty, Mo.), some are goal oriented ("Will you please keep The Electric Company on the air till the end of June? We watch it every day and it helps us learn," penned Leandre Ballium of

succeeding and hope you will continue for a long time."

-- "Makes reading much more meaningful."

-- "It is good enough that it should be a part of all primary reading programs."

-- "Excellent--Also, since we live in a white suburb, the show helps children relate at least a little to people of a different race."

-- "High interest levels and pupil involvement with participation as a group without the risk of individual response. Everyone reads successfully and feels good after this program."

-- "I am very satisfied with the program. The children look forward to this period."

-- "I am sometimes distressed by the use of poor grammar and English that sometimes is employed--It may make the characters funnier or whatever but it is hard after spending so much time on proper grammar to then hear it misused. I have noticed this occurring less than before however. I don't know if it's intentional or not."

-- "All my children enjoy this program equally. The reading levels range from 3.0 to 6.9 plus at this time--yet not one is bored or not interested."

-- "Sometimes things are repeated too much--causing occasional boredom. I commend the actors and actresses for their fine part in this program."

-- "The children that need it most don't watch it long enough to get the value from it."

-- "Thank you for giving me a 'third hand.' Classes like mine really enjoy the shows and this gives me a 'break' in which to work with individual children. Keep up the good work!"

Philadelphia), and some are critics ("Can you make a more advanced show than The Electric Company? I am one of those kids who can take more of a challenge," complained Mark Sander of New York City).

Dr. Jeanne Chall, who is a supporter of The Electric Company as well as a member of the advisory committee, expresses disappointment that the series doesn't incite more interest in reading books. "What it needs," she says, "is cleverness and the imagination to show the marvels of why letters are what they are. Easy Reader is wonderful but he just reads words. He reads words on signs, but he doesn't really read. The producers tell me that it's boring to read books on television but I still say there's a way of doing it."

The producers never dismiss any criticism that is levelled at the series. The fact that The Electric Company is now a slower-paced show with a quieter tone to it, is a result of listening to the opinions of teachers and the advisory committee. The sequences titled "A Very Short Book" are an attempt to provide some sort of reading for comprehension, and there is constant thought given to other ways of introducting children to literature.

However, even its critics have words of praise for The Electric Company. "I think there have been some lovely things," says Dr. Chall. "I love the '2001' song and the push, pull, in, out, song is delightful. They have done some wonderful things but there is still more to be done."

"We found out you can teach verbal skills using visual techniques," relates advisory chairman Dr. Gerald Lesser. "It's a little paradoxical but nobody says you have to teach verbal skills by solely verbal means. The theory behind it is to give the kids who don't make it one way, another way." And why not?

Because the producers consider The Electric Company to be an experiment, they agree. There is always more to be done.

LESSONS FROM THE SHOW

Because of its experimental and evolutionary nature, The Electric Company has taught CTW and its advisors valuable lessons about teaching reading on television.

Dr. Horner points out that with television decisions must often be made before all the research is in. "In dealing with television, you must make a lot of decisions all the time, since there is always a production deadline. You make more informed decisions with some information than with none. If you always waited until all the research evidence was in you would never be able to do anything. What you have to do is make the best decision you can given the amount of information you have at that point."

For Dr. Vivian Horner it is exciting to discover that television is not considered an anathema to learning by a majority of teachers. "We learned that most teachers welcomed The Electric Company and were willing to accept the idea of TV in the classroom as well as the notion that learning can be enjoyable."

"We found out you can teach verbal skills using visual techniques," relates advisory chairman Dr. Gerald Lesser. "It's a little paradoxical but nobody says you have to teach verbal skills by solely verbal means. The theory behind it is to give the kids who don't make it one way, another way." And why not?

THE SHOW GOES AROUND THE WORLD

"The Electric Company is excellent. It has punch, and this is just the time we need it in Britain."

--Ronald Smedley, BBC School Television Service.

Educators in other English-speaking countries have watched with interest the impact of The Electric Company on the reading skills of the American youth.

In 1975 the British Broadcasting Corporation aired The Electric Company in Great Britain as part of an experimental effort to help combat a rising illiteracy rate among 10 to 16 year old potential high school dropouts.

Ronald Smedley, executive producer for BBC School Television Service, said, "The number of non-readers leaving schools in the United Kingdom is terribly high. The Electric Company should help youngsters who have dropped out of the struggle to learn to read to get back into the fight. The Electric Company is excellent. It has punch and this is just the time we need it in Britain." The experiment will continue in 1976.

Meanwhile, The Electric Company is also being seen in Antigua, Aruba, Australia, Barbados, Bermuda, Canada, Curacao, Gilbraltar, Hong Kong, Jamaica, Nigeria, Saudi Arabia, St. Kitts and Trinidad and Tobago.

HONORS AND AWARDS

In 1973 The Electric Company became the first TV show extensively used in classrooms to be honored with an Emmy, U.S. television's highest award presented by the National Academy of the TV Arts and Sciences. The honor went to the show's seven writers; it was accepted by head writer Tom Whedon on behalf of himself, John Boni, Sara Compton, Tom Dunsmuir, Thad Mumford, Jeremy Stevens and Jim Thurman. The program won a second Emmy in 1974; art director Ron Baldwin and set director Nat Mongioi were cited.

The reading series also won a top award in the coveted Japan Prize competition which judges the quality of international radio and television educational programs. The 14-member international jury in 1973 awarded the program the Japanese Minister of Posts and Telecommunications Prize as the best primary education program.

The Electric Company also received the oldest and most prestigious education award in U.S. broadcasting, the Ohio State Award, given for meritorious achievement in educational TV programs. The show was cited as "an awesome creation which imaginatively utilizes the medium to instruct with brilliance and professional quality not commonly found." The judges said the show "must be given top ratings by every standard of measurement" and concluded the series "represents a special level of excellence."